

COLLOQUIUM

Diversity management at different scales

*Operationalizing compatibility
between the micro, meso and
macro levels*

observatoire
économie
langues
formation **elf**



MIME
Mobilité et inclusion dans
une Europe multilingue



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DE GENÈVE

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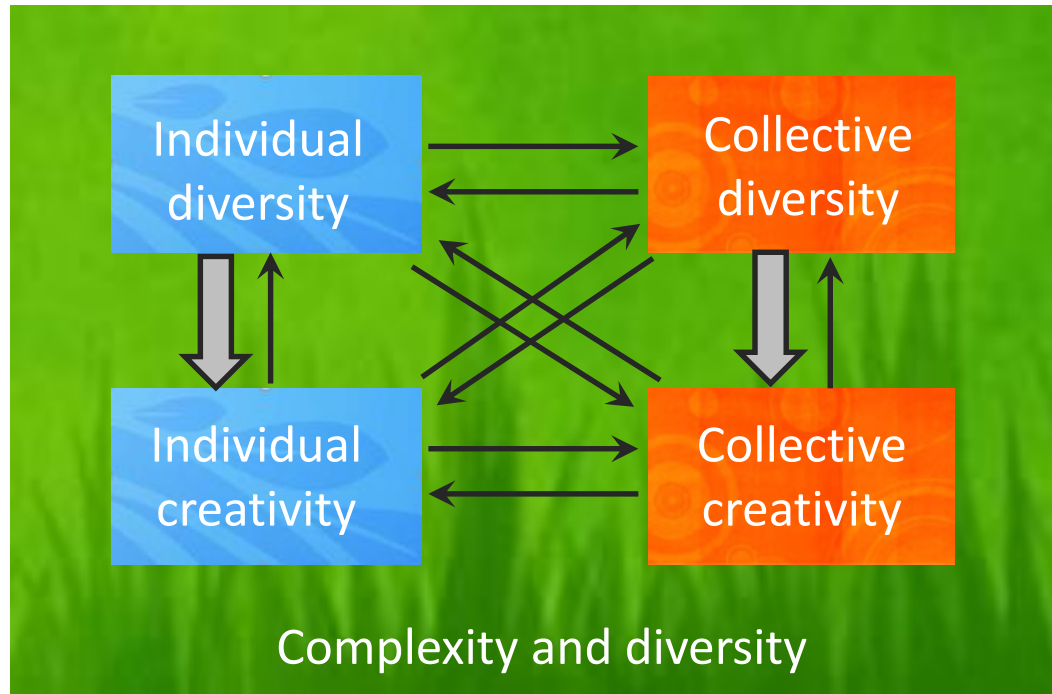
Diversity & Creativity

*Do creative multilingual teams require multilingual individuals,
creative individuals, or both?*

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- The link between diversity and creativity is used here as an entry point into a whole range of **major social issues**
- These issues all revolve around the **advantages and drawbacks of linguistic and cultural diversity**
- **Linguistic and cultural diversity is often said to be conducive to creativity** (and, by extension, to innovation, productivity, prosperity)
- If such a link exists, it provides an additional argument in favor of **diversity-maintenance** and even **diversity-enhancing policies**
- The issues at hand are exceedingly **broad and complex** → some paring down and clarification is needed:
 - How to conceptualize and measure diversity and creativity?
 - How articulate the individual and group levels?

- I. Diversity and creativity at the individual level
- II. Complexity and diversity: key concepts and measurements
- III. Diversity and creativity at the group level



Diversity among individuals and groups takes many forms. Here we focus on **ELC diversity** (ethnic, linguistic and cultural).

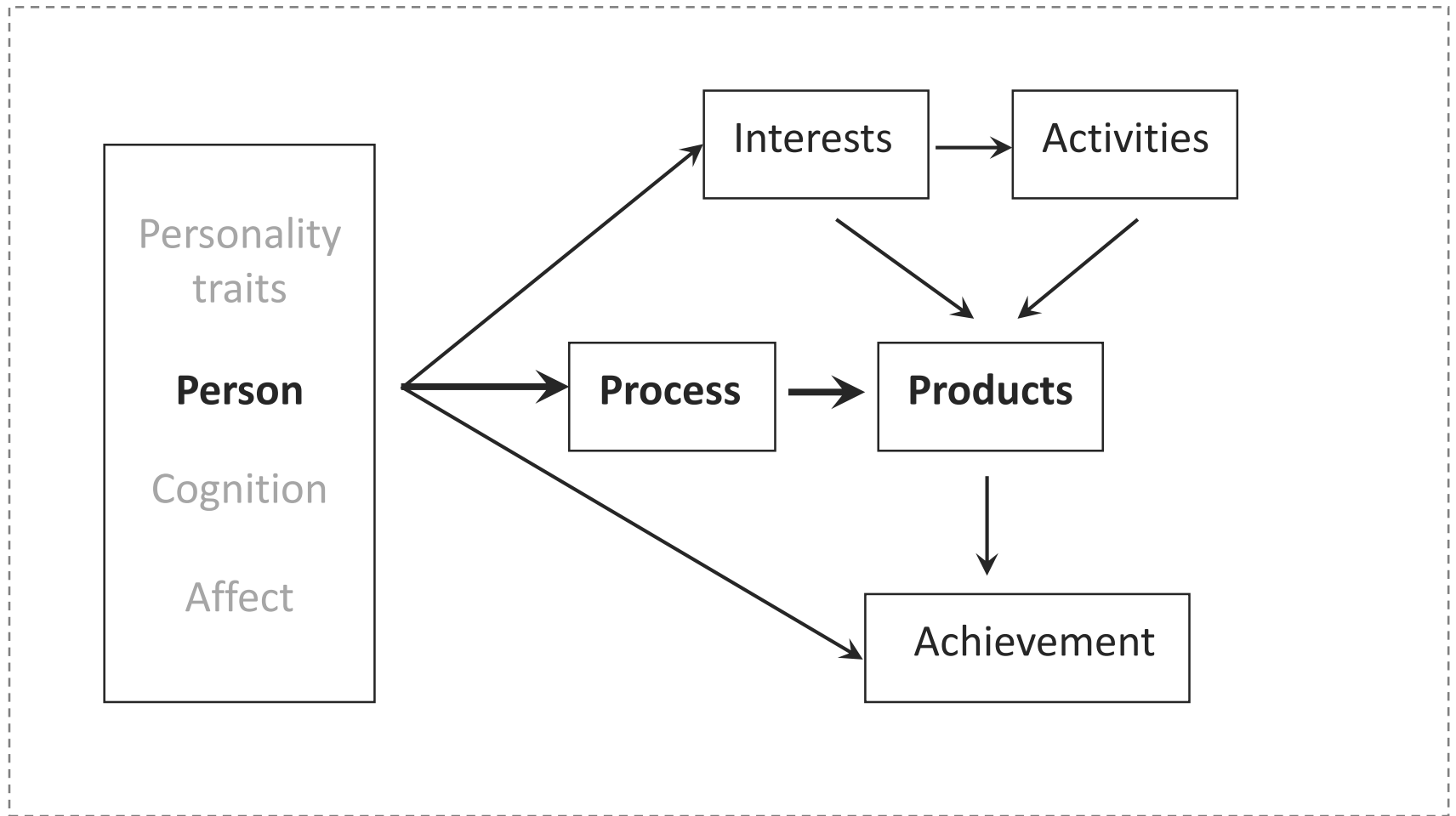
- **Multilingualism (ML)** may be approached as proficiency in two or more languages; probably better described as a matter of degree in abilities than as a categorical variable

- **Other forms of cultural diversity (“multiculturalism”; MC):**
 - At the (micro) *individual level*: **capacity** to deal with cultural difference; **life experiences** that imply frequent encounters with cultural difference
 - At the (meso) *group level*: the **mere presence of persons of culturally diverse origins**; the ideological stance according to which this diversity should be seen as **something good**

- A consensual definition of creativity: “**Creativity is the interplay between ability and process by which an individual or group produces an outcome or product that is both novel and useful as defined within some social context.**” (Plucker, Beghetto, & Dow, 2004: 90)
- Distinction between **levels** (e.g. Kaufman and Beghetto, 2009)
 - Mini-c: micro discovery processes involved in learning
 - Small-c: everyday creativity (e.g., ‘creative’ hobbies)
 - Pro-C: ‘professional’ creativity (e.g., artists, scientists, engineers)
 - Big-C: eminent creativity (e.g., historic, major discovery)
- Distinction between **domains**, e.g. between art and science
- General factors of creativity? (e.g. Fürst, 2012; Chan & Schunn 2015)
 - Processes such as idea **generation** and idea **selection/elaboration**
 - **Diversity of knowledge** and interests
 - Association of remote ideas; **combination of distant concepts**

A general model of creativity

Individual
level



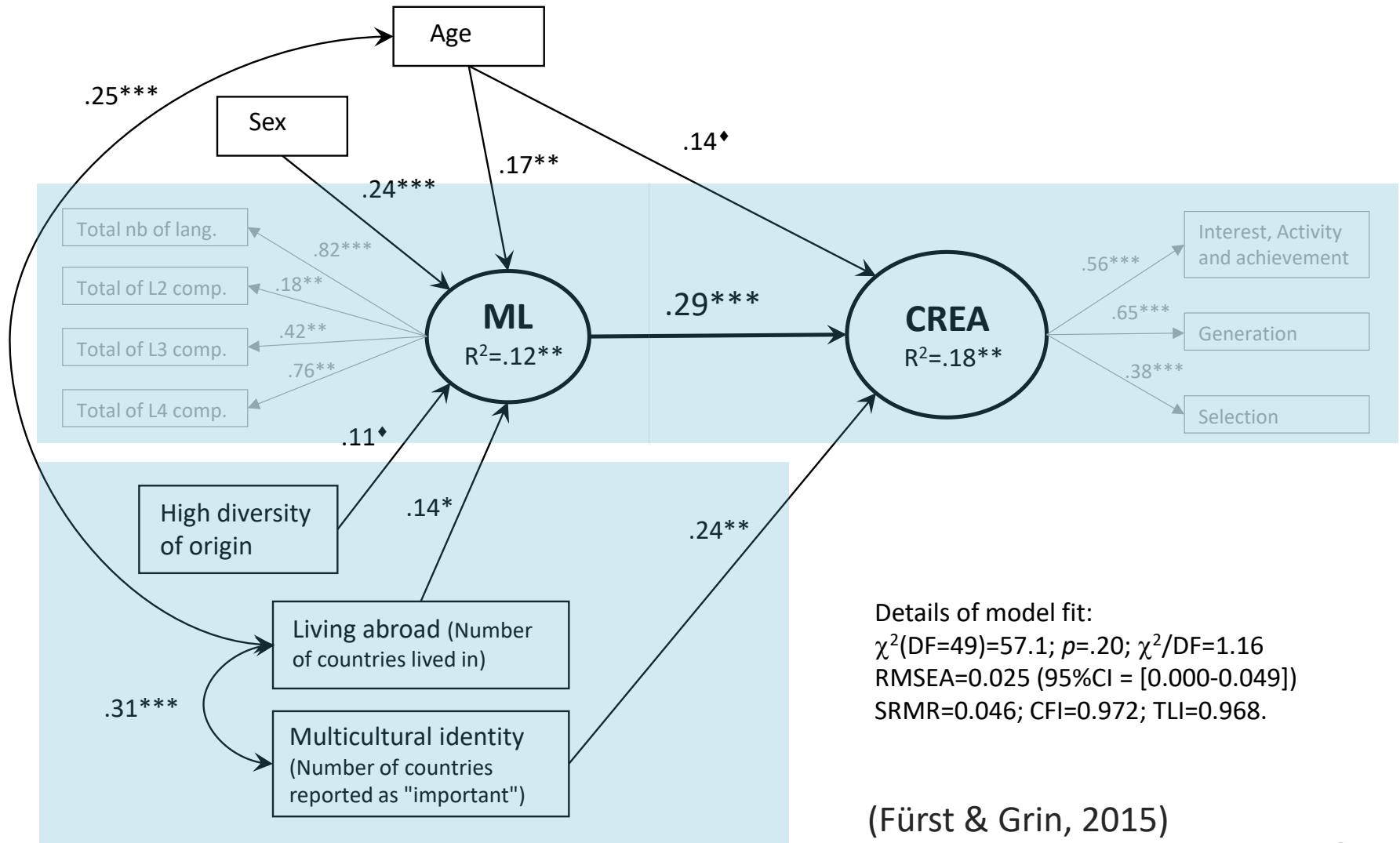
(Environment – context, domain, field, etc.)

(Fürst & Lubart, 2013)

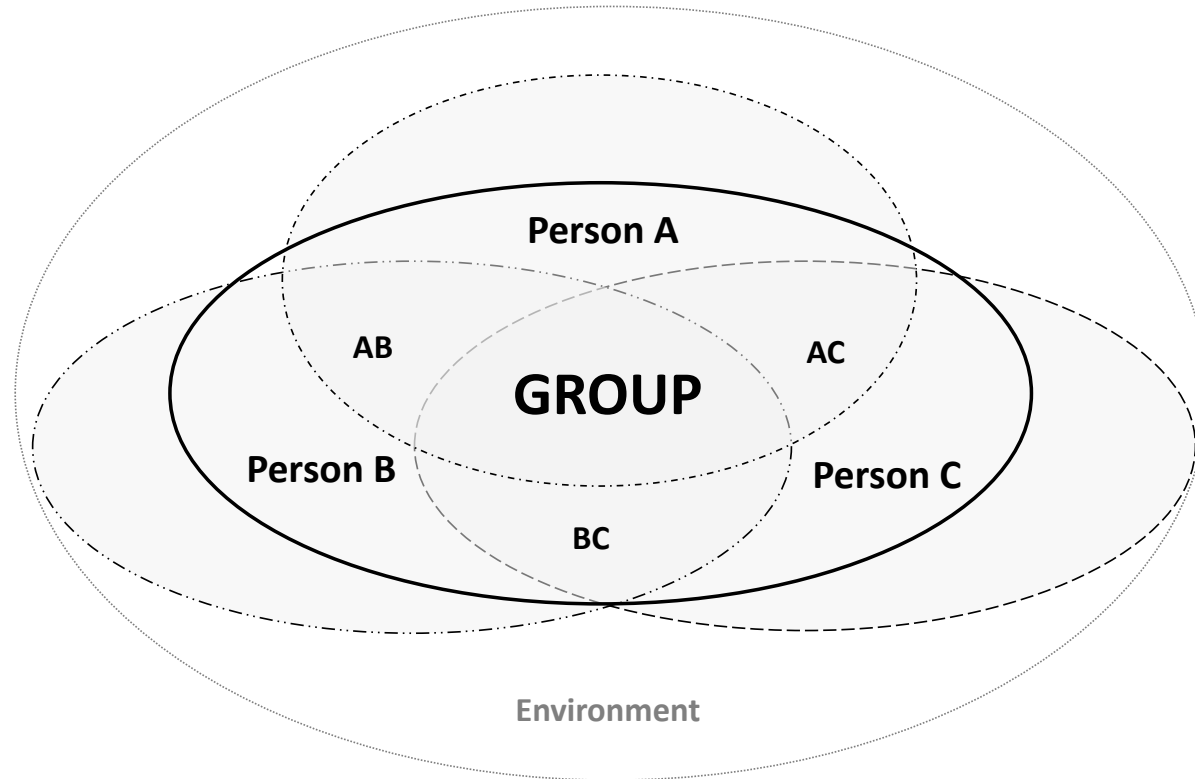
- Some studies shows that **ML is positively associated with cognitive processes that could be related to higher creativity**, such as flexibility, inhibition, processing speed, complexity of conceptual network (e.g. Kharkhurin, 2012)
- Other studies focus on the **positive relation between MC and creativity**, also through a large array of different mechanisms (e.g. Leung et al. 2008; Gocłowska & Crisp, 2014)
 - general psychological openness; openness to unconventional ideas
 - integration of incompatible world views thanks to a dual cultural identity
 - greater diversity of experience that is useful for finding new ideas
- Overall, since MC and ML are positively correlated, it is therefore **unclear whether it is actually the language skills and/or the multicultural experience that are related to higher creativity**

Multivariate analysis: an integrative model

Individual level



- General aim of this section: introducing a **complexity and system perspective**, coupled with various **measurement** schemes
- Core characteristics of complex adaptive systems
 - **multiple interconnected elements** that create a **functioning whole**;
 - some degree of **spontaneous order**;
 - **feedback loops**, for communication and self-regulation;
 - capacity to **change and learn** from experience
- The (sub)system perspective can offer a unified view of diversity and creativity across persons and groups
 - Persons embedded in groups
 - Persons and groups embedded in society
- Relevance of this approach: to offer a framework that allows the complex measurement of diversity in groups



- Overall, the system view offer a general perspective that allows a **theoretical focus on subsystems, on whole system, or both**
- This will prove useful to assess diversity in groups

Measurement of diversity – RED

Richness (number of different elements), **Evenness** (distribution of the different elements), **Distance** (distance between elements).

Low distance

High distance

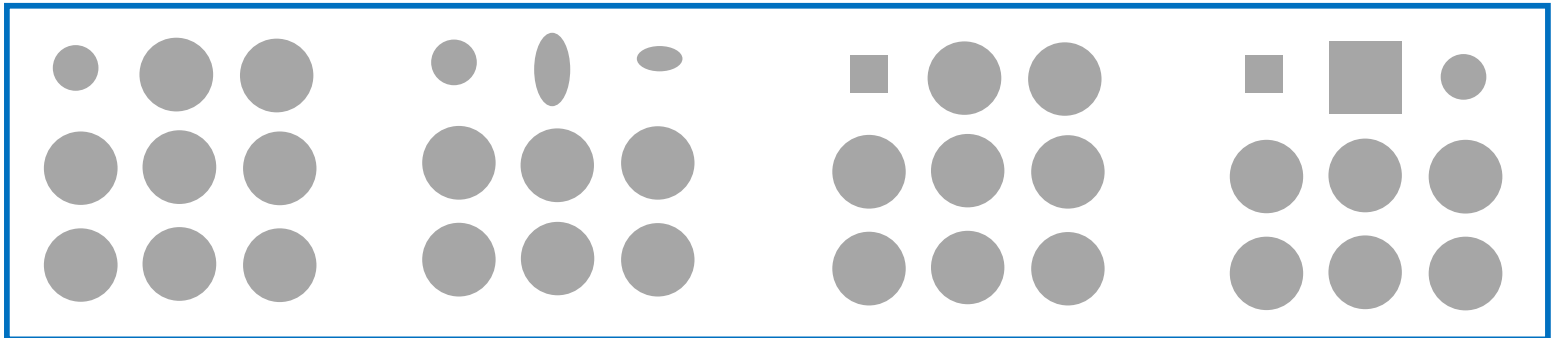
Poor

Rich

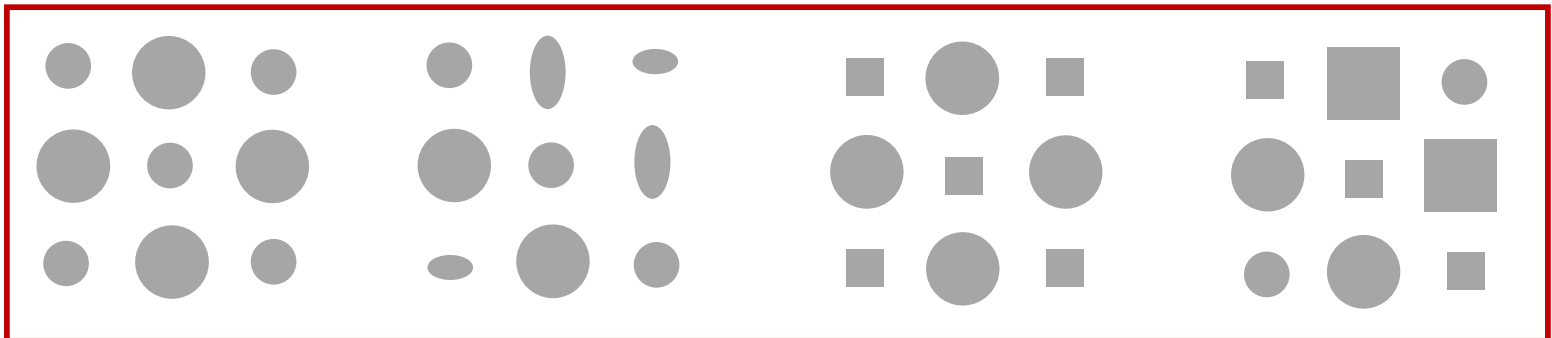
Poor

Rich

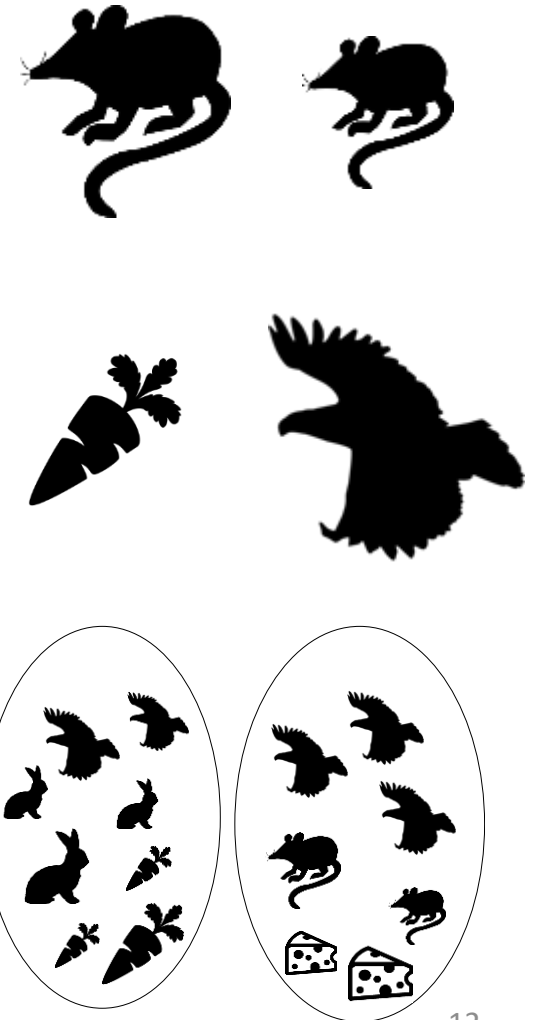
Uneven



Even

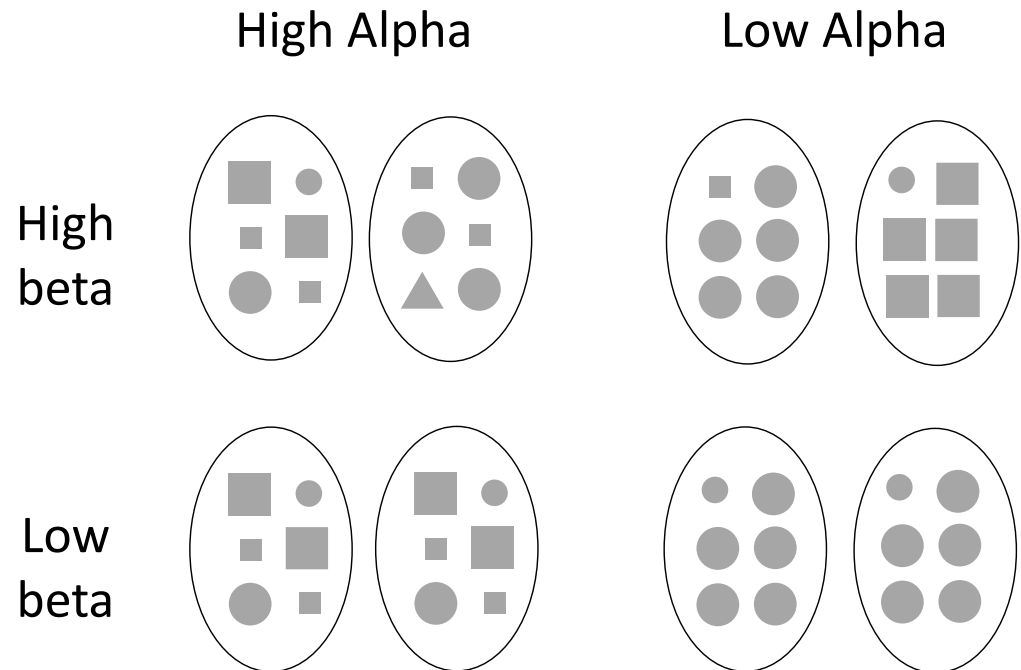
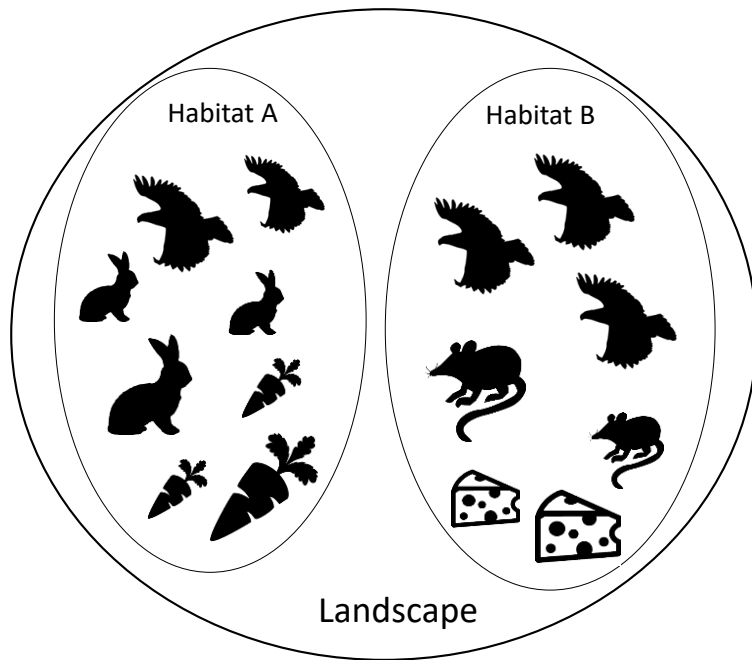


- Three types of diversity (e.g. Page, 2011)
 - **variation within type**, which refers to continuous differences in the amount of some attribute (e.g. size, openness); these variations provide responsiveness to minor changes;
 - **differences across types, or diversity of kinds**; this refers to discrete differences or categories such as species in an ecosystem (or language); this [RED] diversity of type often creates synergies and mutualism;
 - **diversity of composition, which refers to differences between communities or systems**; diversity of composition is generally associated with robustness to major changes.



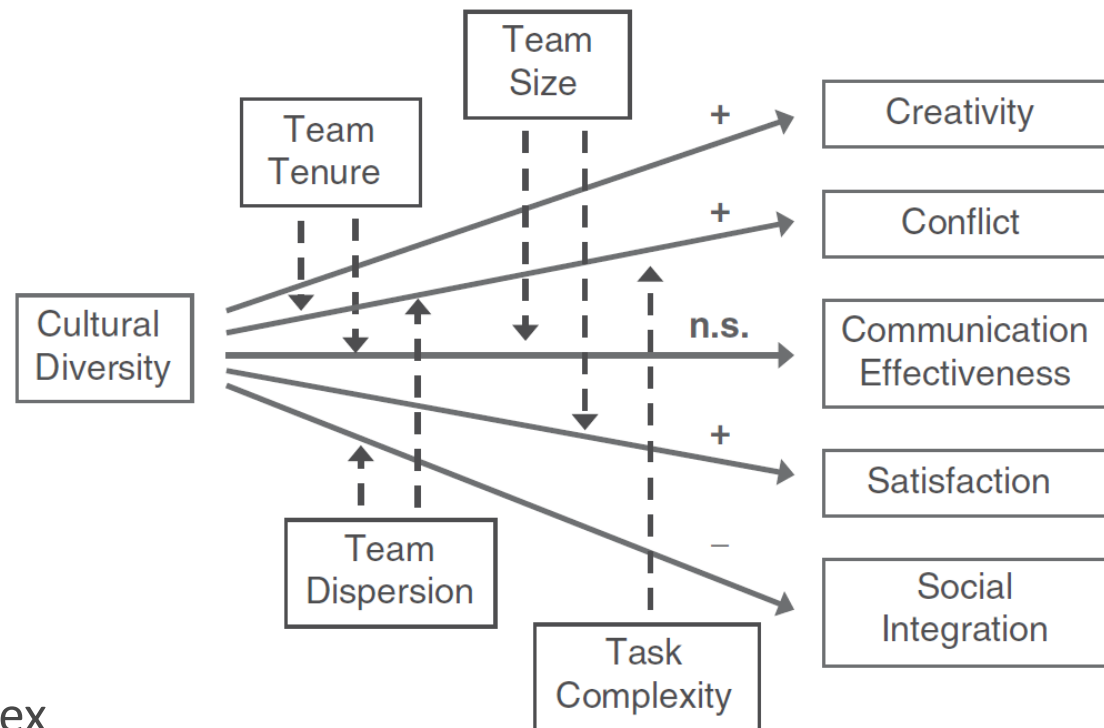
Measurement of diversity – α , β , γ

- **Alpha, Beta, Gamma.** (e.g., Whittaker, Willis, & Field, 2001)
 - **alpha diversity (α)** : mean species diversity within habitats;
 - **beta diversity (β)**: differentiation (nb of species) across habitats;
 - **gamma diversity (γ)**: total diversity in a landscape, $\gamma = \beta \times \alpha$.



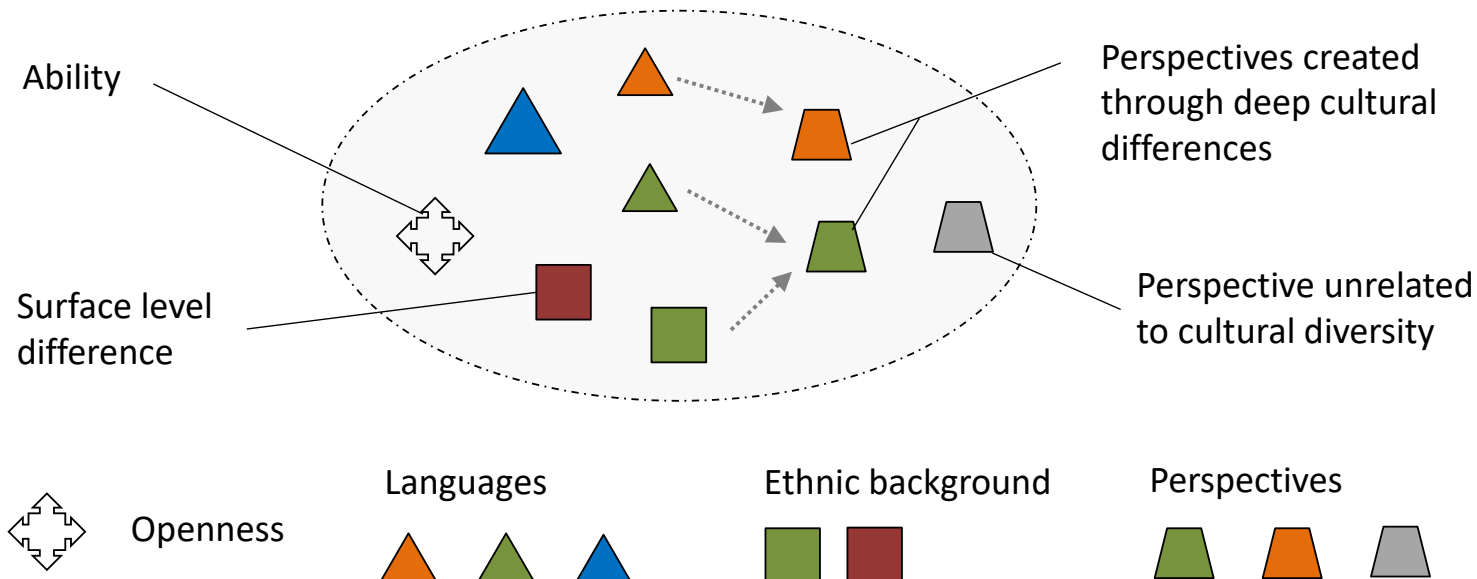
- A distinction between idea generation and idea selection
 - **Idea generation:** a sum of individuals (nominal group) generally outperforms a group; possible causes: *fear of evaluation* (lack of safety), *communication issues* (sharing of speaking time), *desire for consensus* (groupthink)
 - **Idea evaluation:** groups generally outperform individuals, arguably because ideas are judged through a variety of perspectives
- Group cohesion and composition is also relevant here
 - Groups with **strong majority:** basically kills creativity. Group without minority influence are vulnerable to groupthink. People in groups often strongly desire consensus, leading to premature, suboptimal decisions
 - Groups including **at least one minority:** Minorities stimulate divergent thinking and consideration of the issues from multiple perspectives. Even if the minority is wrong, it encourages people to speak out.
=> The “**liberating role of the dissent**” is transposable to various tasks, opinions, strategies. In a nutshell: the benefits from having minorities in groups are huge (Paulus & Nijstad, 2003; Nijstad, 2015)

- Several studies have investigated the impact of diversity on various aspects of group performance (Stahl et al. 2010)
 - Quite a number of unexpected, encouraging results (e.g., positive impact on satisfaction; no impact on **communication effectiveness***)
 - Only a few number of studies focus on *diversity and creativity* (these suggest a positive relation)
 - No study on the specific issue of *multilingualism* and creativity at group level
 - No study with complex measurement of diversity



1. Clarify the combine effect of *abilities* (variation within type) and RED diversity: *ELC diversity* and *group creativity-relevant diversity*

- **surface-level diversity:** trivial visible differences (e.g. skin colour); can lead to stereotyping, increase the risk of emotional conflict in the group
- **deep cultural diversity:** often related to *cognitive diversity*; much more likely to lead to constructive/relevant differences in interpretations or perspectives (but can also lead to incomprehension and conflict)

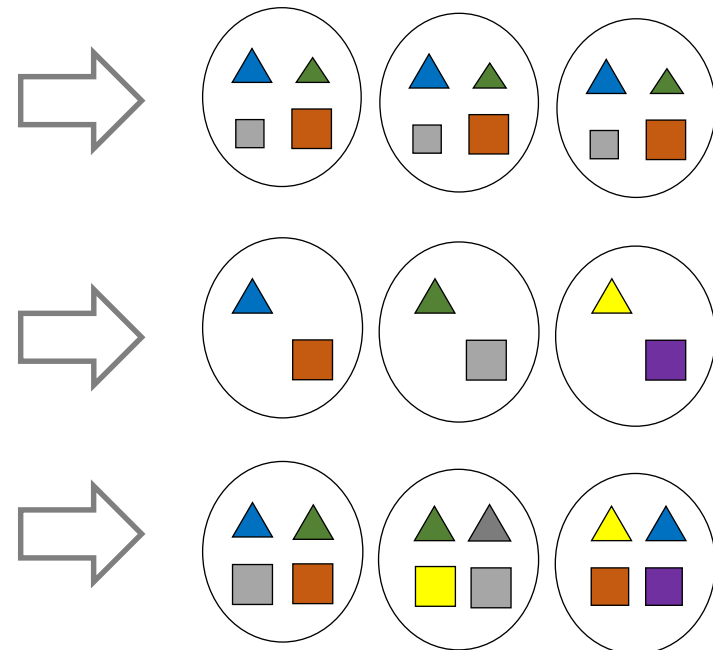


2. Use multilevel operationalisations of diversity; disentangle the role of RED diversity within members of the group, and across members

Multilevel RED diversity

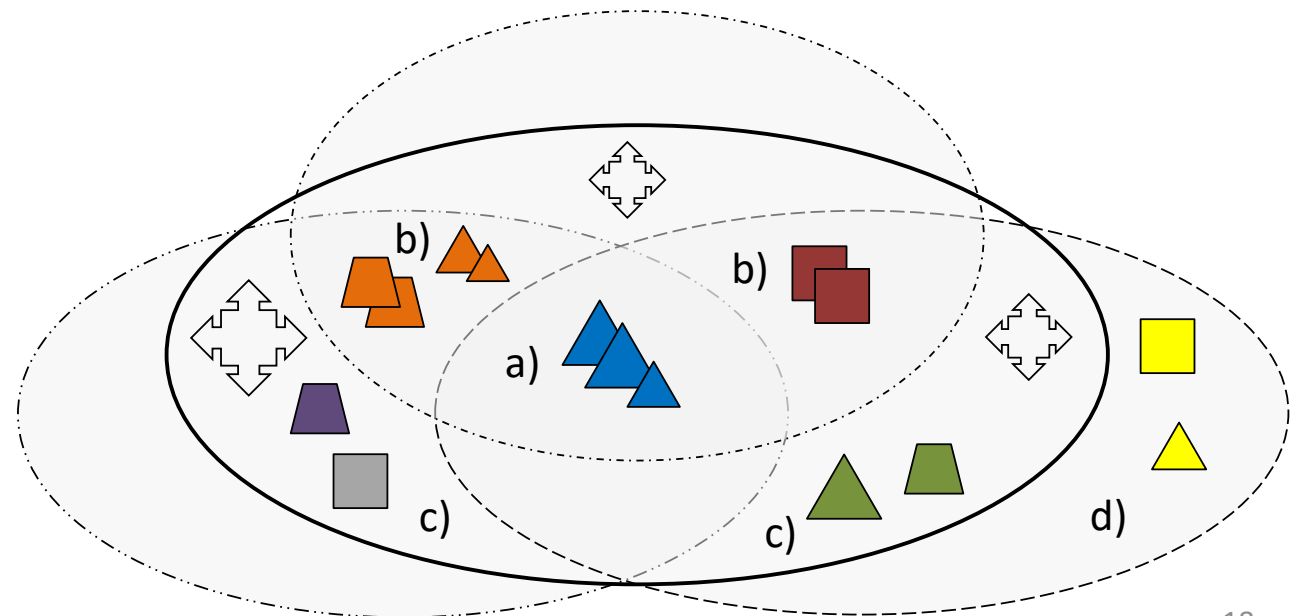
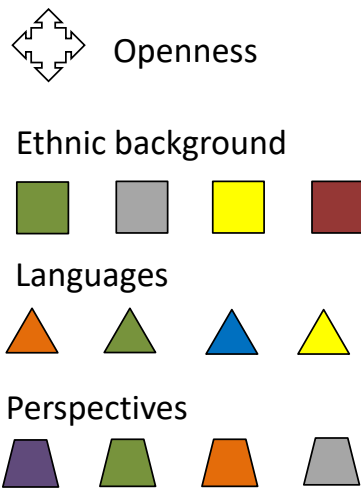
- Richness: e.g. number of cultural origins, number of languages spoken
- Evenness: e.g. relative importance of each of them for the unit of observation
- Distance: e.g. magnitude of the difference across these cultures/languages

- Should individual members have “intrinsic” diversity (high α)?
- Or is it only diversity across group members that matters (high β)?
- Or both (high $\alpha \times$ high $\beta =$ high γ)?



3. Combine the overall role of diversity with group dynamics

- At least one language shared by all members of the group (or T&I)
- Elements shared by a few members of the group (good for group cohesion)
- Unique elements potentially usable by the group (\approx minority influence)
- Cultural difference that is kept out of the group; when is this problematic?
- What about abilities; does any average ability (e.g. openness) matters?



- *Do creative multilingual teams require multilingual individuals, creative individuals, or both? => hard to tell at this point*
- It seems quite clear that **problem solving and creativity are correlated to some dimensions of diversity** (e.g. diversity of knowledge, interpretations, perspectives) (Page, 2007)
- However it is **unclear at this point how ELC diversity is connected to these relevant dimensions of diversity**
- The **relations between diversity and group dynamics are also complex**; the **implications of diversity are probably non-linear** (e.g. too much of certain forms of diversity could lead to miscommunication or conflict)
- Finally, **the effect of diversity might not be the same on all the dimensions of creativity**; a multivariate and comprehensive operationalisation of creativity is needed (see part I)

Thank you for you attention!



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